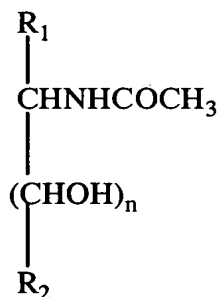
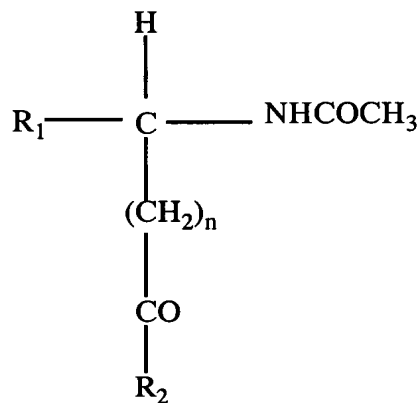


wherein said N-acetyl aldostamine has the formula:



wherein n is an integer; R<sub>1</sub> is selected from the group consisting of CHO, CONH<sub>2</sub>, and COOR<sub>3</sub>; R<sub>2</sub> is selected from the group consisting of H, I, F, Cl, Br, and an alkyl, alkoxyl, aralkyl or aryl group of saturated or unsaturated, straight or branched chain or cyclic form having 1 to 19 carbon atoms; R<sub>3</sub> is selected from the group consisting of H and an alkyl, aralkyl, or aryl group having from 1 to 9 carbon atoms,

[said N-acetyl amino acid has the formula:



wherein R<sub>1</sub> is H or an alkyl or aralkyl group having 1 to 14 carbon atoms; n is an integer; R<sub>2</sub> is OH, NH<sub>2</sub> or OR<sub>3</sub>; and R<sub>3</sub> is an alkyl, aralkyl or aryl group having 1 to 9 carbon atoms which may be saturated or unsaturated, straight or branched chain or cyclic form; H attached to a carbon atom may be substituted by I, F, Cl, Br or an alkoxyl group having 1 to 9 carbons; and R<sub>1</sub> may carry OH, SH, SCH<sub>3</sub>, COOH, CONH<sub>2</sub>, guanidine or heterocyclic group,

and wherein said N-acetyl amino acid is not N-acetylcysteine or a derivative thereof]

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wherein said N-acetylamino acid or isomeric or nonisomeric, free acid, salt, lactone, amide, or ester form thereof is at least one member selected from the group consisting of N-acetyl-glycine, N-acetyl-alanine, N-acetyl-valine, N-acetyl-leucine, N-acetyl-isoleucine, N-acetyl-serine, N-acetyl-threonine, N-acetyl-tyrosine, N-acetyl-cysteine, N-acetyl-methionine, N-acetyl-aspartic acid, N-acetyl-asparagine, N-acetyl-glutamine, N-acetyl-arginine, N-acetyl-lysine, N-acetyl-histidine, N-acetyl-phenylalanine, N-acetyl-tyrosine, N-acetyl-tryptophan, N-acetyl- $\beta$ -alanine, N-acetyl-aurine, N-acetyl-r-aminobutanoic acid, N-acetyl-hydroxyproline, N-acetyl-canavanine, N-acetyl-hydroxylysine, N-acetyl-cycloserine, N-acetyl-homoarginine, N-acetyl-norleucine, N-acetyl-norvaline, N-acetyl-homoserine, N-acetyl-methylserine, N-acetyl-hydroxyvaline, N-acetyl-ethionine, N-acetyl-methoxinine, N-acetyl- $\beta$ -aminoisobutanoic acid, N-acetyl-homocysteine, N-acetyl-cysteine sulfinic acid, N-acetyl-homophenylalanine, N-acetyl-homotryptophan, N-acetyl-5-hydroxytryptamine (N-acetylserotonin), N-acetyltryptamine, N-acetyl-ornithine, N-acetyl-citrulline, N-acetyl-argininosuccinic acid, N-acetyl-dopa, N-acetyl-3-iodotyrosine, N-acetyl-3,5-diiodotyrosine, N-acetyl-3,5,3'-triiodothyronine, N-acetyl-thyroxine, N-acetyl-creatine, N-acetyl-creatinine, N-acetyl-cystine, N-acetyl-homocystine, and isomeric or nonisomeric, free acid, salt, lactone, amide, or ester forms thereof, and N-acetyl-glutamic acid and isomeric or nonisomeric, free acid, lactone, amide, or ester forms thereof.

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6. (Amended) The composition of claim [5] ~~21~~<sup>47</sup>, wherein said N-acetyl aldosterone or isomeric or nonisomeric, free acid, salt, lactone, amide, or ester form thereof is at least one member selected from the group consisting of N-acetyl-glycinosamine, N-acetyl-erythrosamine, N-acetyl-threosamine, N-acetyl-ribosamine, N-acetyl-arabiosamine, N-acetyl-xylosamine, N-acetyl-lyxosamine, N-acetyl-allosamine, N-acetyl-altrosamine, N-acetyl-glucosamine, N-acetyl-mannosamine, N-acetyl-gulosamine, N-acetyl-idosamine, N-acetyl-galactosamine, N-acetyl-talosamine, N-acetyl-glucoheptosamine, N-acetyl-galactoheptosamine, N-acetyl-mannoheptosamine, N-acetyllactosamine, N-acetylmuramic acid, N-acetylneuramine, N-acetylneuramin Lactose, N-acetyl-glyceraminic acid, N-acetyl-erythrosaminic acid, N-acetyl-threosaminic acid, N-acetyl-ribosaminic acid, N-acetyl-arabiosaminic acid, N-acetyl-xylosaminic acid, N-acetyl-lyxosaminic acid, N-acetyl-

allosaminic acid, N-acetyl-altrosaminic acid, N-acetyl-glucosaminic acid, N-acetyl-mannosaminic acid, N-acetyl-gulosaminic acid, N-acetyl-idosaminic acid, N-acetyl-galactosaminic acid, N-acetyl-talosaminic acid, N-acetyl-heptoglucosaminic acid, N-acetyl-heptogalactosaminic acid, N-acetyl-heptomannosaminic acid, N-acetyl-N-acetylneuraminic acid, and isomeric or nonisomeric, free acid, salt, lactone, amide, or ester forms thereof.

4. (Amended) The composition of claim ~~5~~<sup>4</sup> 21 wherein said N-acetyl amino acid or isomeric or nonisomeric, free acid, salt, lactone, amide, or ester form thereof is at least one member selected from the group consisting of N-acetyl-glycine, N-acetyl-alanine, N-acetyl-valine, N-acetyl-leucine, N-acetyl-isoleucine, N-acetyl-serine, N-acetyl-threonine, N-acetyl-tyrosine, N-acetyl-cysteine, N-acetyl-methionine, N-acetyl-aspartic acid, N-acetyl-asparagine, N-acetyl-glutamic acid, N-acetyl-glutamine, N-acetyl-arginine, N-acetyl-lysine, N-acetyl-histidine, N-acetyl-phenylalanine, N-acetyl-tyrosine, N-acetyl-tryptophan, N-acetyl-proline, N-acetyl-β-alanine, N-acetyl-aurine, N-acetyl-r-aminobutanoic acid, N-acetyl-hydroxyproline, N-acetyl-canavanine, N-acetyl-hydroxylysine, N-acetyl-cycloserine, N-acetyl-homoarginine, N-acetyl-norleucine, N-acetyl-norvaline, N-acetyl-homoserine, N-acetyl-methylserine, N-acetyl-hydroxyvaline, N-acetyl-ethionine, N-acetyl-methoxinine, N-acetyl-β-aminoisobutanoic acid, N-acetyl-homocysteine, N-acetyl-cysteine sulfinic acid, N-acetyl-homophenylalanine, N-acetyl-homotryptophan, N-acetyl-5-hydroxytryptamine (N-acetylserotonin), N-acetyltryptamine, N-acetyl-ornithine, N-acetyl-citrulline, N-acetyl-argininosuccinic acid, N-acetyl-dopa, N-acetyl-3-iodotyrosine, N-acetyl-3,5-diiodotyrosine, N-acetyl-3,5,3'-triiodothyronine, N-acetyl-thyroxine, N-acetyl-creatine, N-acetyl-creatinine, N-acetyl-cystine, N-acetyl-homocystine, and or isomeric or nonisomeric, free acid, salt, lactone, amide, or ester forms thereof.

3. (Amended) The composition of claim ~~5~~<sup>4</sup> 21, wherein said cosmetic conditions and dermatological disorders are selected from the group consisting of disturbed keratinization, defective syntheses of dermal components, and changes associated with aging of skin, nail and hair, conditions and disorders which include dryness or loose of skin, nail and hair, xerosis, ichthyosis, palmar hyperkeratoses, plantar hyperkeratoses,

uneven and rough surfaces of skin, nail and hair, dandruff, Darier's disease, lichen simplex chronicus, keratoses, acne, pseudofolliculitis barbae, eczema, psoriasis, pruritus, warts, herpes, age spots, lentigines, melasmas, blemished skin, hyperkeratoses, hyperpigmented skin, abnormal or diminished syntheses of collagen, glycosaminoglycans, proteoglycans and elastin as well as diminished levels of such components in the dermis, stretch marks, skin lines, fine lines, wrinkles, thinning of skin, nail plate and hair, skin thickening due to elastosis of photoaging, loss or reduction of skin, nail and hair resiliency, elasticity and recoilability, lack of skin, nail and hair lubricants and luster, dull and older-looking skin, nails and hair, and fragility and splitting of nails and hair.

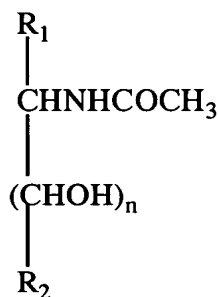
9. (Amended) The composition of claim ~~8~~ 21, wherein said cosmetic, pharmaceutical, or other topical agent is selected from the group consisting of agents that improve or eradicate age spots, keratoses and wrinkles, local analgesics and anesthetics, antiacne agents, antibacterials, antiyeast agents, antifungal agents, antiviral agents, antidandruff agents, antidermatitis agents, antihistamine agents, antipruritic agents, antiemetics, antimotion sickness agents, antiinflammatory agents, antihyperkeratolytic agents, antiperspirants, antipsoriatic agents, antiseborrheic agents, hair conditioners and hair treatment agents, antiaging and antiwrinkle agents, sunblock and sunscreen agents, skin lightening agents, depigmenting agents, vitamins, corticosteroids, tanning agents, hormones, retinoids, and topical cardiovascular agents.

10. (Amended) The composition of claim ~~9~~ 8, wherein said cosmetic, pharmaceutical, or other topical agent is selected from the group consisting of clotrimazole, ketoconazole, miconazole, griseofulvin, econazole, metronidazole, hydroxyzine, diphenhydramine, pramoxine, lidocaine, procaine, mepivacaine, monobenzene, erythromycin, tetracycline, clindamycin, meclocycline, hydroquinone, hydroquinone monoether, minocycline, naproxen, ibuprofen, theophylline, cromolyn, albuterol, retinol, retinyl acetate, retinyl palmitate, retinoic acid, 13-cis retinoic acid, hydrocortisone, hydrocortisone 21-acetate, hydrocortisone 17-valerate, hydrocortisone 17-butyrate, betamethasone valerate, betamethasone dipropionate, triamcinolone acetonide,

fluocinonide, clobetasol[, ] propionate, benzoyl peroxide, crotamiton, propranolol, promethazine, salicylic acid, vitamin E and vitamin E acetate.

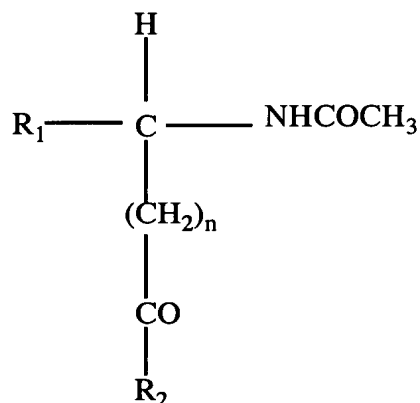
12/11. (Amended) A method for treating cosmetic conditions and dermatological disorders comprising topically applying a composition comprising (A) a pharmaceutically acceptable vehicle for topical treatment of cosmetic conditions or dermatological disorders and (B) a therapeutically effective amount of a composition comprising at least one compound selected from the group consisting of N-acetyl aldoses, N-acetyl amino acids and isomeric or nonisomeric, free acid, salt, lactone, amide, or ester forms thereof,

wherein said N-acetyl aldose has the formula:



wherein n is an integer;  $R_1$  is selected from the group consisting of CHO,  $CONH_2$ , and  $COOR_3$ ;  $R_2$  is selected from the group consisting of H, I, F, Cl, Br, and an alkyl, alkoxy, aralkyl or aryl group of saturated or unsaturated, straight or branched chain or cyclic form having 1 to 19 carbon atoms;  $R_3$  is selected from the group consisting of H and an alkyl, aralkyl or aryl group having from 1 to 9 carbon atoms, and

[ said N-acetyl amino acid has the formula:



wherein  $\text{R}_1$  is H or an alkyl or aralkyl group having 1 to 14 carbon atoms;  $n$  is an integer;  $\text{R}_2$  is OH,  $\text{NH}_2$  or  $\text{OR}_3$ ; and  $\text{R}_3$  is an alkyl, aralkyl or aryl group having 1 to 9 carbon atoms which may be saturated or unsaturated, straight or branched chain or cyclic form; H attached to a carbon atom may be substituted by I, F, Cl, Br or an alkoxyl group having 1 to 9 carbons; and  $\text{R}_1$  may carry OH, SH,  $\text{SCH}_3$ , COOH,  $\text{CONH}_2$ , guanidine or heterocyclic group]

wherein said N-acetyl amino acid or isomeric or nonisomeric, free acid, salt, lactone, amide, or ester form thereof is at least one member selected from the group consisting of N-acetyl-glycine, N-acetyl-alanine, N-acetyl-valine, N-acetyl-leucine, N-acetyl-isoleucine, N-acetyl-serine, N-acetyl-threonine, N-acetyl-tyrosine, N-acetyl-cysteine, N-acetyl-methionine, N-acetyl-aspartic acid, N-acetyl-asparagine, N-acetyl-glutamine, N-acetyl-arginine, N-acetyl-lysine, N-acetyl-histidine, N-acetyl-phenylalanine, N-acetyl-tyrosine, N-acetyl-tryptophan, N-acetyl-proline, N-acetyl- $\beta$ -alanine, N-acetyl-aurine, N-acetyl-r-aminobutanoic acid, N-acetyl-hydroxyproline, N-acetyl-canavanine, N-acetyl-hydroxylysine, N-acetyl-cycloserine, N-acetyl-homoarginine, N-acetyl-norleucine, N-acetyl-norvaline, N-acetyl-homoserine, N-acetyl-methylserine, N-acetyl-hydroxyvaline, N-acetyl-ethionine, N-acetyl-methoxinine, N-acetyl- $\beta$ -aminoisobutanoic acid, N-acetyl-homocysteine, N-acetyl-cysteine sulfinic acid, N-acetyl-homophenylalanine, N-acetyl-homotryptophan, N-acetyl-5-hydroxytryptamine (N-acetylserotonin), N-acetyltryptamine, N-acetyl-ornithine, N-acetyl-citrulline, N-acetyl-argininosuccinic acid, N-acetyl-dopa, N-

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acetyl-3-iodotyrosine, N-acetyl-3,5-diiodotyrosine, N-acetyl-3,5,3'-triiodothyronine, N-acetyl-thyroxine, N-acetyl-creatine, N-acetyl-creatinine, N-acetyl-cystine, N-acetyl-homocystine, and isomeric or nonisomeric, free acid, salt, lactone, amide, or ester forms thereof, and N-acetyl-glutamic acid and isomeric or nonisomeric, free acid, lactone, amide, or ester forms thereof.

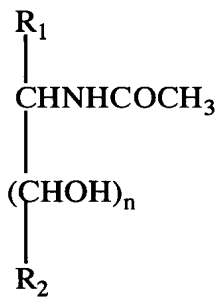
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15. (Amended) A method for treating cosmetic conditions and dermatological disorders comprising topically applying [the compound of claim 5] a composition comprising:

(A) a pharmaceutically acceptable vehicle for topical treatment of cosmetic conditions or dermatological disorders,

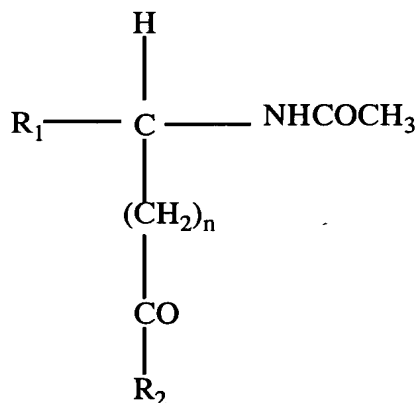
(B) a therapeutically effective amount of at least one compound selected from the group consisting of N-acetyl aldosesamines, N-acetyl amino acids, and isomeric or nonisomeric, free acid, salt, lactone, amide, or ester forms thereof,

wherein said N-acetyl aldosesamine has the formula:



wherein n is an integer; R<sub>1</sub> is selected from the group consisting of CHO, CONH<sub>2</sub>, and COOR<sub>3</sub>; R<sub>2</sub> is selected from the group consisting of H, I, F, Cl, Br, and an alkyl, alkoxyl, aralkyl or aryl group of saturated or unsaturated, straight or branched chain or cyclic form having 1 to 19 carbon atoms; R<sub>3</sub> is selected from the group consisting of H and an alkyl, aralkyl, or aryl group having from 1 to 9 carbon atoms,

wherein said N-acetylamino acid is N-acetyl-proline or has the formula:



wherein  $\text{R}_1$  is H or an alkyl or aralkyl group having 1 to 14 carbon atoms;  $n$  is an integer;  $\text{R}_2$  is OH,  $\text{NH}_2$  or  $\text{OR}_3$ ; and  $\text{R}_3$  is an alkyl, aralkyl or aryl group having 1 to 9 carbon atoms which may be saturated or unsaturated, straight or branched chain or cyclic form; H attached to a carbon atom may be substituted by I, F, Cl, Br or an alkoxyl group having 1 to 9 carbons; and  $\text{R}_1$  may carry OH, SH,  $\text{SCH}_3$ , COOH,  $\text{NH}_2$ ,  $\text{CONH}_2$ , guanidine or heterocyclic group,

and wherein said N-acetylamino acid is not N-acetylcysteine or a derivative thereof, and

(C) a cosmetic, pharmaceutical or other topical agent.

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20. (Amended) The method of claim 19, wherein said cosmetic, pharmaceutical, or other topical agent is selected from the group consisting of clotrimazole, ketoconazole, miconazole, griseofulvin, econazole, metronidazole, hydroxyzine, diphenhydramine, pramoxine, lidocaine, procaine, mepivacaine, monobenzene, erythromycin, tetracycline, clindamycin, meclizine, hydroquinone, hydroquinone monoether, minocycline, naproxen, ibuprofen, theophylline, cromolyn, albuterol, retinol, retinyl acetate, retinyl palmitate, retinoic acid, 13-cis retinoic acid, hydrocortisone, hydrocortisone 21-acetate, hydrocortisone 17-valerate, hydrocortisone 17-butyrate, betamethasone valerate, betamethasone dipropionate, triamcinolone acetonide, fluocinonide, clobetasol[.]



propionate, benzoyl peroxide, crotamiton, propranolol, promethazine, salicylic acid, vitamin E, and vitamin E acetate.

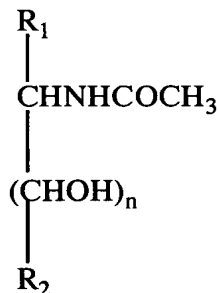
Please add the following new claims:

21. A composition comprising:

(A) a pharmaceutically acceptable vehicle for topical treatment of cosmetic conditions or dermatological disorders,

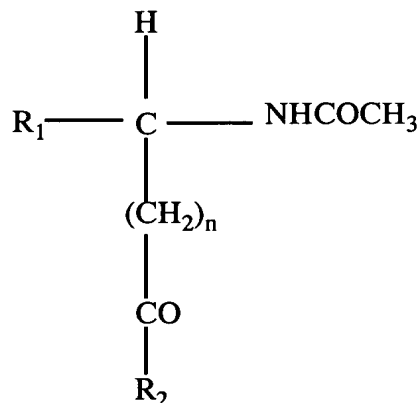
(B) a therapeutically effective amount of at least one compound selected from the group consisting of N-acetyl aldoses, N-acetyl amino acids, and isomeric or nonisomeric, free acid, salt, lactone, amide, or ester forms thereof,

wherein said N-acetyl aldose has the formula:



wherein n is an integer; R<sub>1</sub> is selected from the group consisting of CHO, CONH<sub>2</sub>, and COOR<sub>3</sub>; R<sub>2</sub> is selected from the group consisting of H, I, F, Cl, Br, and an alkyl, alkoxy, aralkyl or aryl group of saturated or unsaturated, straight or branched chain or cyclic form having 1 to 19 carbon atoms; R<sub>3</sub> is selected from the group consisting of H and an alkyl, aralkyl, or aryl group having from 1 to 9 carbon atoms,

wherein said N-acetylamino acid has the formula:



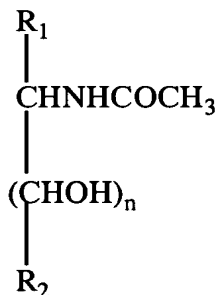
wherein  $R_1$  is H or an alkyl or aralkyl group having 1 to 14 carbon atoms;  $n$  is an integer;  $R_2$  is OH,  $NH_2$  or  $OR_3$ ; and  $R_3$  is an alkyl, aralkyl or aryl group having 1 to 9 carbon atoms which may be saturated or unsaturated, straight or branched chain or cyclic form; H attached to a carbon atom may be substituted by I, F, Cl, Br or an alkoxy group having 1 to 9 carbons; and  $R_1$  may carry OH, SH,  $SCH_3$ , COOH,  $NH_2$ ,  $CONH_2$ , guanidine or heterocyclic group,

and wherein said N-acetylamino acid is not N-acetylcysteine or a derivative thereof,  
and

(C) a cosmetic, pharmaceutical or other topical agent.

~~22~~<sup>1D</sup>. A composition comprising (A) a pharmaceutically acceptable vehicle for topical treatment of cosmetic conditions or dermatological disorders and (B) at least 1 % by total weight of the composition of at least one compound selected from the group consisting of N-acetyl aldosesamines, N-acetyl amino acids, and isomeric or nonisomeric, free acid, salt, lactone, amide, or ester forms thereof,

wherein said N-acetyl aldosaamine has the formula:



wherein n is an integer; R<sub>1</sub> is selected from the group consisting of CHO, CONH<sub>2</sub>, and COOR<sub>3</sub>; R<sub>2</sub> is selected from the group consisting of H, I, F, Cl, Br, and an alkyl, alkoxyl, aralkyl or aryl group of saturated or unsaturated, straight or branched chain or cyclic form having 1 to 19 carbon atoms; R<sub>3</sub> is selected from the group consisting of H and an alkyl, aralkyl, or aryl group having from 1 to 9 carbon atoms,

wherein said N-acetylamino acid or isomeric or nonisomeric, free acid, salt, lactone, amide, or ester form thereof is at least one member selected from the group consisting of N-acetyl-glycine, N-acetyl-alanine, N-acetyl-valine, N-acetyl-leucine, N-acetyl-isoleucine, N-acetyl-serine, N-acetyl-threonine, N-acetyl-tyrosine, N-acetyl-cysteine, N-acetyl-methionine, N-acetyl-aspartic acid, N-acetyl-asparagine, N-acetyl-glutamine, N-acetyl-arginine, N-acetyl-lysine, N-acetyl-histidine, N-acetyl-phenylalanine, N-acetyl-tyrosine, N-acetyl-tryptophan, N-acetyl-proline, N-acetyl-β-alanine, N-acetyl-taurine, N-acetyl-r-aminobutanoic acid, N-acetyl-hydroxyproline, N-acetyl-canavanine, N-acetyl-hydroxylysine, N-acetyl-cycloserine, N-acetyl-homoarginine, N-acetyl-norleucine, N-acetyl-norvaline, N-acetyl-homoserine, N-acetyl-methylserine, N-acetyl-hydroxyvaline, N-acetyl-ethionine, N-acetyl-methoxinine, N-acetyl-β-aminoisobutanoic acid, N-acetyl-homocysteine, N-acetyl-cysteine sulfinic acid, N-acetyl-homophenylalanine, N-acetyl-homotryptophan, N-acetyl-5-hydroxytryptamine (N-acetylserotonin), N-acetyltryptamine, N-acetyl-ornithine, N-acetyl-citrulline, N-acetyl-argininosuccinic acid, N-acetyl-dopa, N-acetyl-3-iodotyrosine, N-acetyl-3,5-diiodotyrosine, N-acetyl-3,5,3'-triiodothyronine, N-acetyl-thyroxine, N-acetyl-creatine, N-acetyl-creatinine, N-acetyl-cystine, N-acetyl-homocystine, and isomeric or nonisomeric, free acid, salt, lactone, amide, or ester forms thereof, and N-acetyl glutamic acid and isomeric or nonisomeric, free acid, lactone, amide,

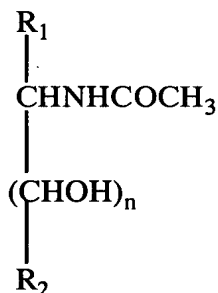
or ester forms thereof.

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23. A composition comprising:

(A) a pharmaceutically acceptable vehicle for topical treatment of cosmetic conditions or dermatological disorders,

(B) at least 1% by total weight of the composition of at least one compound selected from the group consisting of N-acetyl aldoses, N-acetyl amino acids, and isomeric or nonisomeric, free acid, salt, lactone, amide, or ester forms thereof,

wherein said N-acetyl aldose has the formula:



wherein n is an integer; R<sub>1</sub> is selected from the group consisting of CHO, CONH<sub>2</sub>, and COOR<sub>3</sub>; R<sub>2</sub> is selected from the group consisting of H, I, F, Cl, Br, and an alkyl, alkoxy, aralkyl or aryl group of saturated or unsaturated, straight or branched chain or cyclic form having 1 to 19 carbon atoms; R<sub>3</sub> is selected from the group consisting of H and an alkyl, aralkyl, or aryl group having from 1 to 9 carbon atoms,